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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,659	01/05/2001	Tao Chen	PA000155	4956

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Qualcomm Incorporated
Patents Department
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EXAMINER	
NG, CHRISTINE Y	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/755,659	CHEN ET AL.	
	Examiner	Art Unit	
	Christine Ng	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,10,20,24 and 26* is/are rejected.

7)☒ Claim(s) *3-5,7-9,11-19,21-23 and 27-34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 6, 10, 20 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,249,683 to Lundby et al.

Referring to claim 1, Lundby et al discloses in Figures 1C and 2C a method for adjusting transmit power levels of a plurality of transmissions in a wireless communication system. The method comprises:

Receiving a first indication (Figure 2C, Element 230A) of a received quality of a first transmission (Figure 1C, Element 120). Forward link power control commands based on the signal-to-noise ratio or frame error rate of the data stream 120 are generated at the transmitter; the commands are extracted as power control bits 230A at the receiver. Refer to Column 12, lines 26-30 and Column 22, lines 26-32.

Adjusting the transmit power level of the first transmission (Figure 1C, Element 120) based at least in part on the first indication (Figure 2C, Element 230A). The power control bits 230A are used to control the transmit power level of the transmitter 240. Refer to Column 22, lines 32-36.

Receiving a second indication (Figure 2C, Element 230B) of a received quality of a second transmission (Figure 1C, Element 120A), wherein the second indication (Figure 2C, Element 230B) is formed by aggregating a plurality of bits allocated for feedback for the second transmission (Figure 1C, Element 120A). Forward link power control commands based on the signal-to-noise ratio or frame error rate of the data stream 120A are generated at the transmitter; the commands are extracted as power control bits 230B at the receiver. Refer to Column 12, lines 30-34 and Column 22, lines 26-32.

Adjusting the transmit power level of the second transmission (Figure 1C, Element 120A) based at least in part on the second indication (Figure 2C, Element 230B). The power control bits 230B are used to control the transmit power level of the transmitter 242. Refer to Column 22, lines 32-36.

Referring to claim 2, Lundby et al discloses in Figures 1C and 2C that the first indication (Figure 2C, Element 230A) comprises a power control command that indicates whether to increase or decrease the transmit power level of the first transmission (Figure 1C, Element 120). Each power control command in stream 140a (corresponding to Element 230A) represents "a command to the BS1 indicating that the BS1 should either increase or decrease the transmit power level" (Column 12, lines 34-39).

Referring to claim 6, Lundby et al discloses in Figures 1C and 2C that the transmit power levels for the first (Figure 1C, Element 120) and second (Figure 1C, Element 120A) transmissions are adjusted based solely on the first (Figure 2C, Element

230A) and second (Figure 2C, Element 230B) indications, respectively. Refer to Column 22, lines 32-36.

Referring to claim 10, Lundby et al discloses in Figures 1C and 2C that the first indication (Figure 2C, Element 230A) is received via a first power sub-channel (Figure 1C, Element 140a) and the second indication (Figure 2C, Element 230B) is received via a second power control sub-channel (Figure 1C, Element 140b). The power control command streams 140a and 140b (corresponding to 230A and 230B, respectively) are multiplexed into a signal power control bit stream 110 back to the base station on a power control channel or subchannel. Refer to Column 13, lines 16-24.

Referring to claim 20, Lundby et al discloses in Figures 1C and 2C a method for adjusting transmit power levels of a plurality of transmission in a wireless communication system. The method comprises:

Receiving and processing a first transmission (Figure 1C, Element 120) to determine a received quality of the first transmission (Figure 1C, Element 120). Forward link power control commands based on the signal-to-noise ratio or frame error rate of the data stream 120 are generated at the transmitter. Refer to Column 12, lines 26-30.

Forming a first indication (Figure 1C, Element 140a) for the received quality of the first transmission (Figure 1C, Element 120). Based on the signal-to-noise ratio or frame error of data stream 120, a series of forward link power control commands 140a are generated. Refer to Column 12, lines 26-30.

Receiving and processing a second transmission (Figure 1C, Element 120A) to determine a received quality of the second transmission (Figure 1C, Element 120A). Forward link power control commands based on the signal-to-noise ratio or frame error rate of the data stream 120A are generated at the transmitter. Refer to Column 12, lines 30-34.

Forming a second indication (Figure 1C, Element 140b) for the received quality of the second transmission (Figure 1C, Element 120A). Based on the signal-to-noise ratio or frame error of data stream 120A, a series of forward link power control commands 140b are generated. Refer to Column 12, lines 30-34.

Sending the first (Figure 1C, Element 140a) and second (Figure 1C, Element 230b) indications via first (Figure 1C, Element 140a) and second (Figure 1C, Element 140b) power control sub-channels, respectively. The power control command streams 140a and 140b are multiplexed into a signal power control bit stream 110 back to the base station on a power control channel or subchannel. Refer to Column 13, lines 16-24.

Wherein the second indication (Figure 1C, Element 140b) is formed by aggregating a plurality of bits allocated for feedback for the second transmission (Figure 1C, Element 120A). Forward link power control commands based on the signal-to-noise ratio or frame error rate of the data stream 120A are generated at the transmitter; the commands are extracted as power control bits 230B at the receiver. Refer to Column 12, lines 30-34 and Column 22, lines 26-32.

Referring to claim 26, Lundby et al discloses in Figures 2C a power control unit within a base station in a wireless communication system. The power control unit comprises:

A channel processor (Element 220) operative to receive and process a received signal (from Element 210) to recover a first indication (Element 230A) of a received quality of a first transmission and a second indication (Element 230B) of a received quality of a second transmission, wherein the second indication (Element 230B) is formed by aggregating a plurality of bits allocated for feedback for the second transmission. Refer to Column 22, lines 26-36. Refer also to the rejection of claim 1.

A power control processor (Elements 240 and 242) coupled o the channel processor (Element 220) and operative to receive the first (Element 230A) and second (Element 230B) indications and provide one or more commands to adjust transmit power levels of the first and second transmissions. Refer to Column 22, lines 26-36. Refer also to the rejection of claim 1.

3. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,671,266 to Moon et al.

Referring to claim 24, Moon et al discloses in Figure 5 a power control unit for use in a wireless communication system. The power control unit comprises:

A signal quality measurement unit (Element 55) operative to receive and process a first transmission (orthogonal channel) to provide a first indication for a first metric (SIR) for the first transmission (orthogonal channel). The first SIR measurer calculates an SIR for the orthogonal channel. Refer to Column 10, lines 29-32.

A data processor (Element 56) operative to receive and process a second transmission (quasi-orthogonal channel) to provide a second indication for a second metric (SIR) for the second transmission (quasi-orthogonal channel). The second SIR measurer calculates an SIR for the quasi-orthogonal channel. Refer to Column 10, lines 32-36.

A power control processor (Elements 57 and 58) coupled to the signal quality measurement unit (Element 55) and the data processor (Element 56), the power control processor (Elements 57 and 58) operative to direct transmission of the first and second indications on the first (Element 59) and second (Element 60) power control sub-channels, respectively. A first power control generator 59 transmits one power control command bit using a power control group according to the result from the comparator 57. A power ratio change commend generator 60 adjusts the power ratio using the output of the second comparator 58. Refer to Column 10, lines 36-56.

Wherein the second indication is formed by aggregating a plurality of bits allocated for feedback for the second transmission (quasi-orthogonal channel). A second SIR measurer calculates an SIR of the quasi-orthogonal channel by using the quasi-orthogonal code despread signal and the interference measurer 54 output from the quasi-orthogonal channel. Refer to Column 10, lines 32-36.

Response to Arguments

4. Applicant's arguments filed August 2, 2004 have been fully considered but they are not persuasive.

Referring to the argument against claims 1, 2, 6, 10, 20 and 26 that Lundby et al

do not disclose "wherein the second indication is formed by aggregating a plurality of bits allocated for feedback for the second transmission" (page 9, lines 1-15), refer to Figure 1C. Lundby et al disclose in Figure 1C that a power control command generator 131 "monitors the received signal-to-noise ratio or the frame error rate associated with data steam 120a and generates a separate series of forward link power control commands 140b ("aggregating a plurality of bits") based on this information" (Column 12, lines 30-34). Each power control command in stream 140b provides feedback to the base station "indicating that the BS1 should either increase or decrease the transmit power level used to transmit subsequent frames of data stream 120a" (Column 12, lines 34-39).

Referring to the argument against claim 24 that Moon et al do not disclose the aggregating feature (page 9, lines 16-17), refer to Figure 5. Moon et al disclose in Figure 5 that the second indication is formed using a SIR measurer (Element 56) which "accumulates and averages the calculated SIR of the quasi-orthogonal channel for a specified time ("aggregating a plurality of bits") and provides the result to a second comparator 58" (Column 10, lines 32-39). The second comparator 58 uses the calculated SIR of the quasi-orthogonal channel from the SIR measurer 56 to provide feedback to the base station on power control. Refer to Column 10, lines 39-56.

5. Applicant's arguments, see page 8, lines 18-25, filed August 2, 2004, with respect to claims 22, 23 and 25 have been fully considered and are persuasive. The rejection of claims 22, 23 and 25 has been withdrawn.

6. Applicant's arguments, see page 9, lines 18 to page 10, line 6, filed August 2, 2004, with respect to claims 3-5, 7, 8 and 19 have been fully considered and are persuasive. The rejection of claims 3-5, 7, 8 and 19 has been withdrawn.

Allowable Subject Matter

7. Claims 3-5, 7-9, 11-19, 21-23 and 27-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

C. Ng
October 25, 2004

Chau T. Nguyen

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